

**VICINITY MAPS**

**SHEET INDEX**

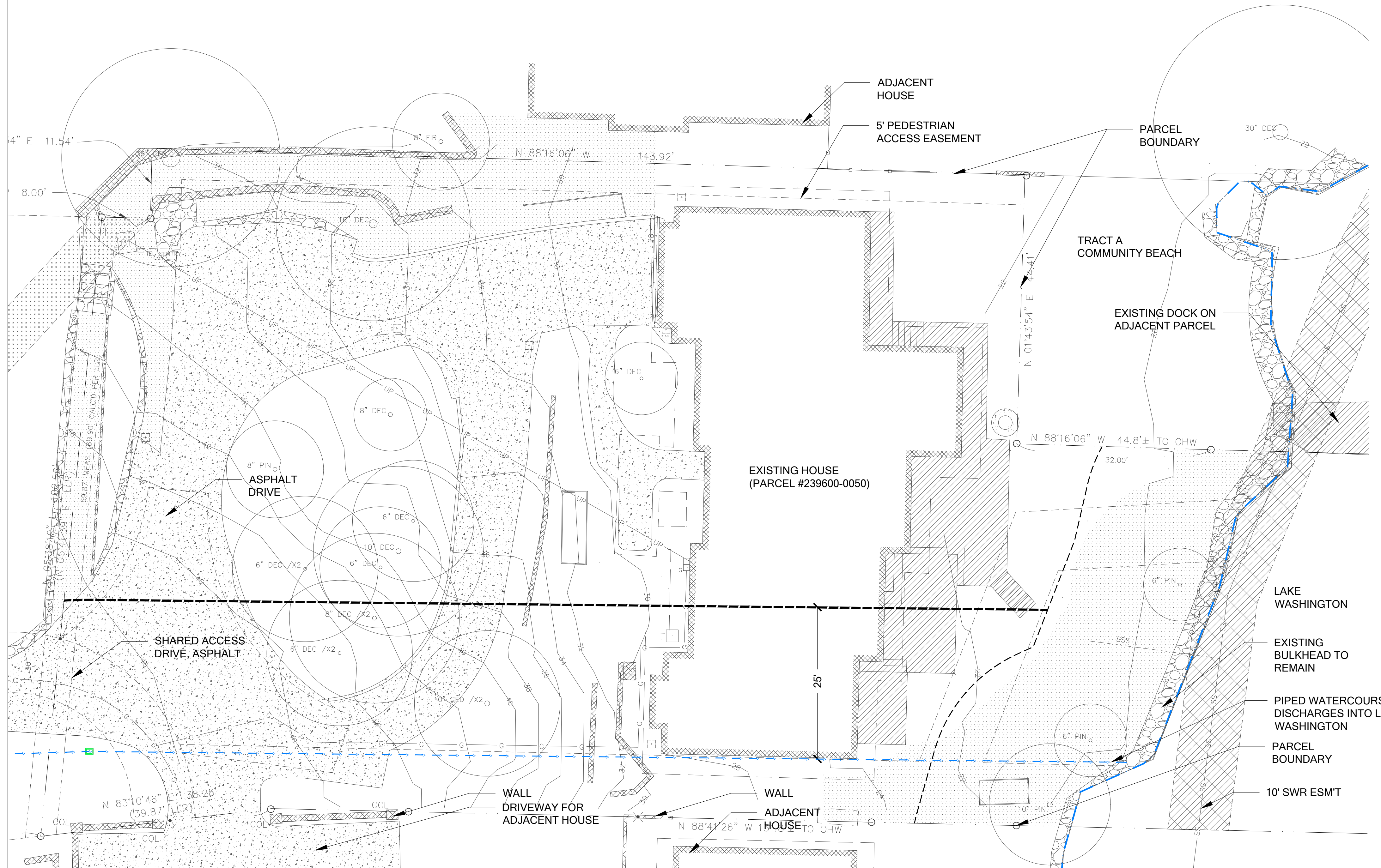
- 1 EXISTING CONDITIONS
- 2 IMPACTS ASSESSMENT
- 3 MITIGATION PLAN
- 4 SITE PREPARATION PLAN
- 5 PLANTING PLAN
- 6 PLANT INSTALLATION DETAILS AND NOTES
- 7 MITIGATION PLAN NOTES

**NOTES**

1. CRITICAL AREAS DELINEATED BY THE WATERSHED COMPANY ON JUNE 19, 2018.
2. SURVEY PERFORMED DECEMBER 2017, BY TERRANE, 10801 MAIN STREET, SUITE 102, BELLEVUE, WA 98004. (425)-458-4488
3. VERTICAL DATUM: NAD88

**LEGEND**

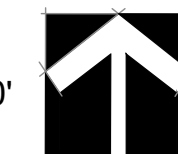
- OHWM (FROM OTHERS)
- PIPED WATERCOURSE
- SHORELINE BUFFER
- WATERCOURSE BUFFER



**EXISTING CONDITIONS**

SCALE: 1" = 10'-0"

0 5' 10' 20' 40'



Know what's below.  
Call before you dig.

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**YANG RESIDENCE  
BUFFER AVERAGING PLAN  
PREPARED FOR  
STEVE AND SOPHIE YANG  
6660 EAST MERCER WAY  
MERCER ISLAND, WA 98040**

SUBMITTALS & REVISIONS	
NO.	DESCRIPTION
1	07-11-2019 REVIEW SET

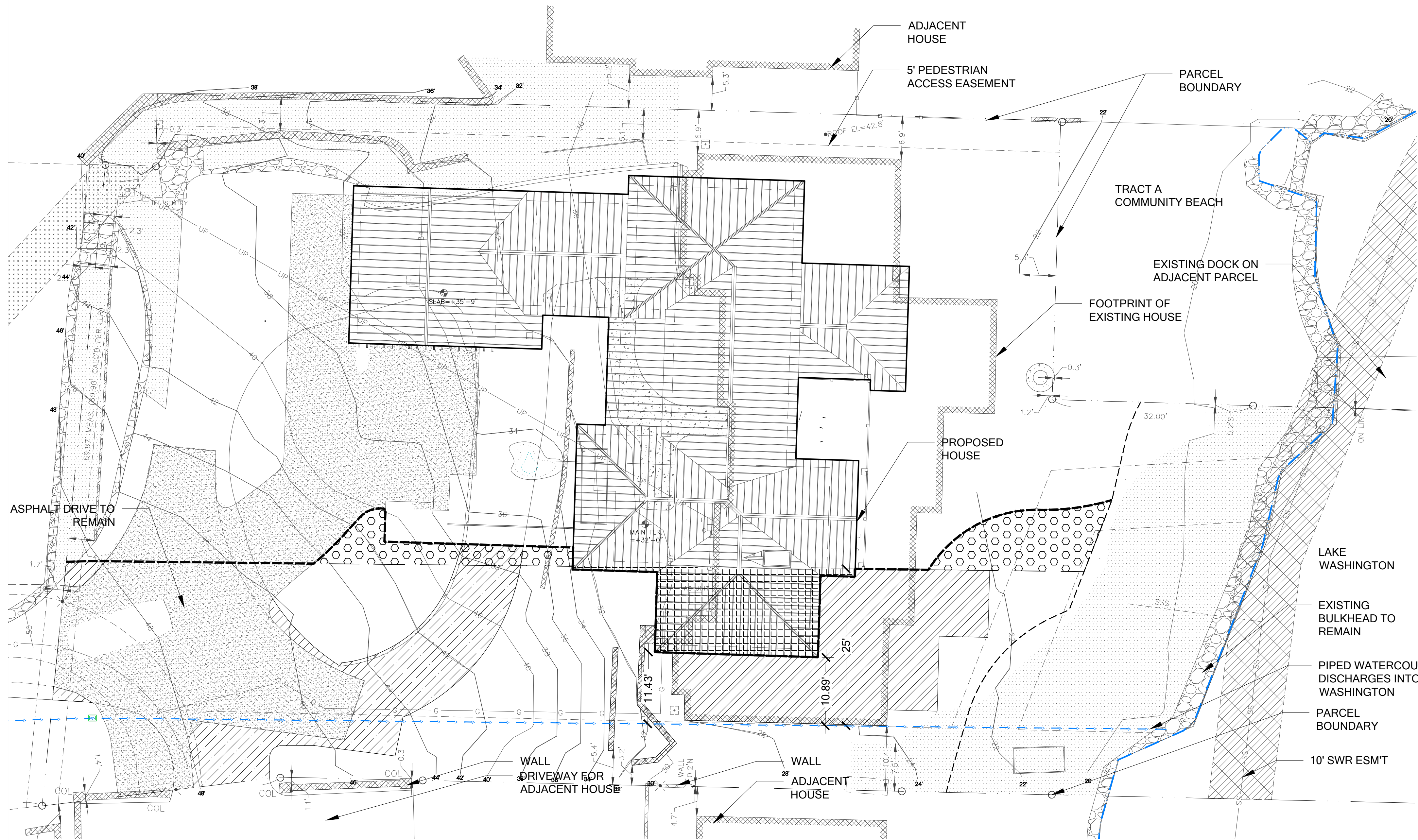
**SHEET SIZE:**  
ORIGINAL PLAN IS 22" x 34".  
SCALE ACCORDINGLY.

PROJECT MANAGER: RK  
DESIGNED: RK/KMB/GM  
DRAFTED: GM  
CHECKED: RK/KMB  
JOB NUMBER:

180605  
SHEET NUMBER:  
**W1 OF 7**

FILENAME: 180605 - MERCER ISLAND YANG, BUFFER AVERAGING PLAN\_20190711\_REV.DWG  
DATE: 11/17/2018  
PRINTED BY: GRAYSON MORRIS



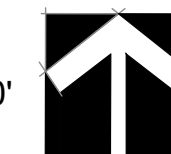


**LEGEND**

- OHWM (FROM OTHERS)
  - PIPED WATERCOURSE
  - SHORELINE BUFFER
  - PROPOSED WATERCOURSE BUFFER
- WATERCOURSE B BUFFER IMPACTS**
- BUFFER TO BE REDUCED (374 SF)
  - BUFFER TO BE ADDED (375 SF)
  - REDUCTION OF STRUCTURE WITHIN BUFFER (812 SF)
  - IMPERVIOUS TO BE REMOVED FROM BUFFER (588 SF)

**IMPACTS ASSESSMENT**

SCALE: 1" = 10'-0"



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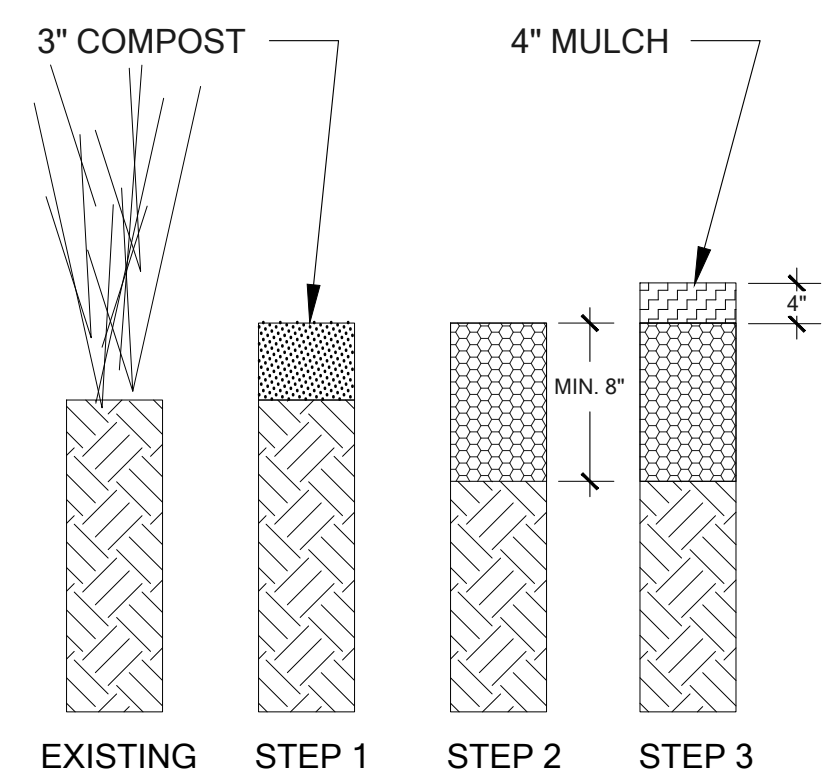
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DRAFTED: GM  
CHECKED: RK/KMB  
JOB NUMBER:

180605  
SHEET NUMBER:  
**W2 OF 7**



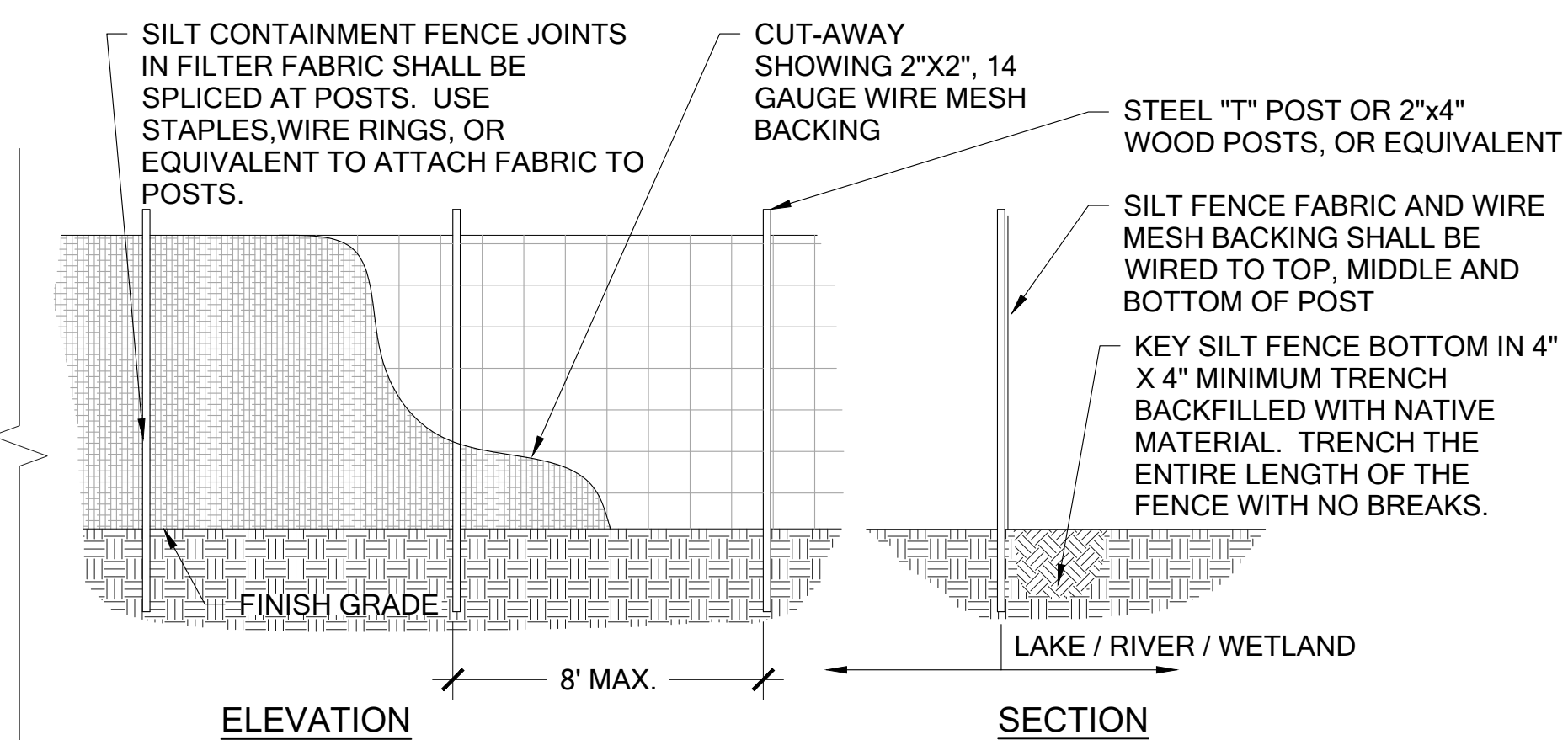






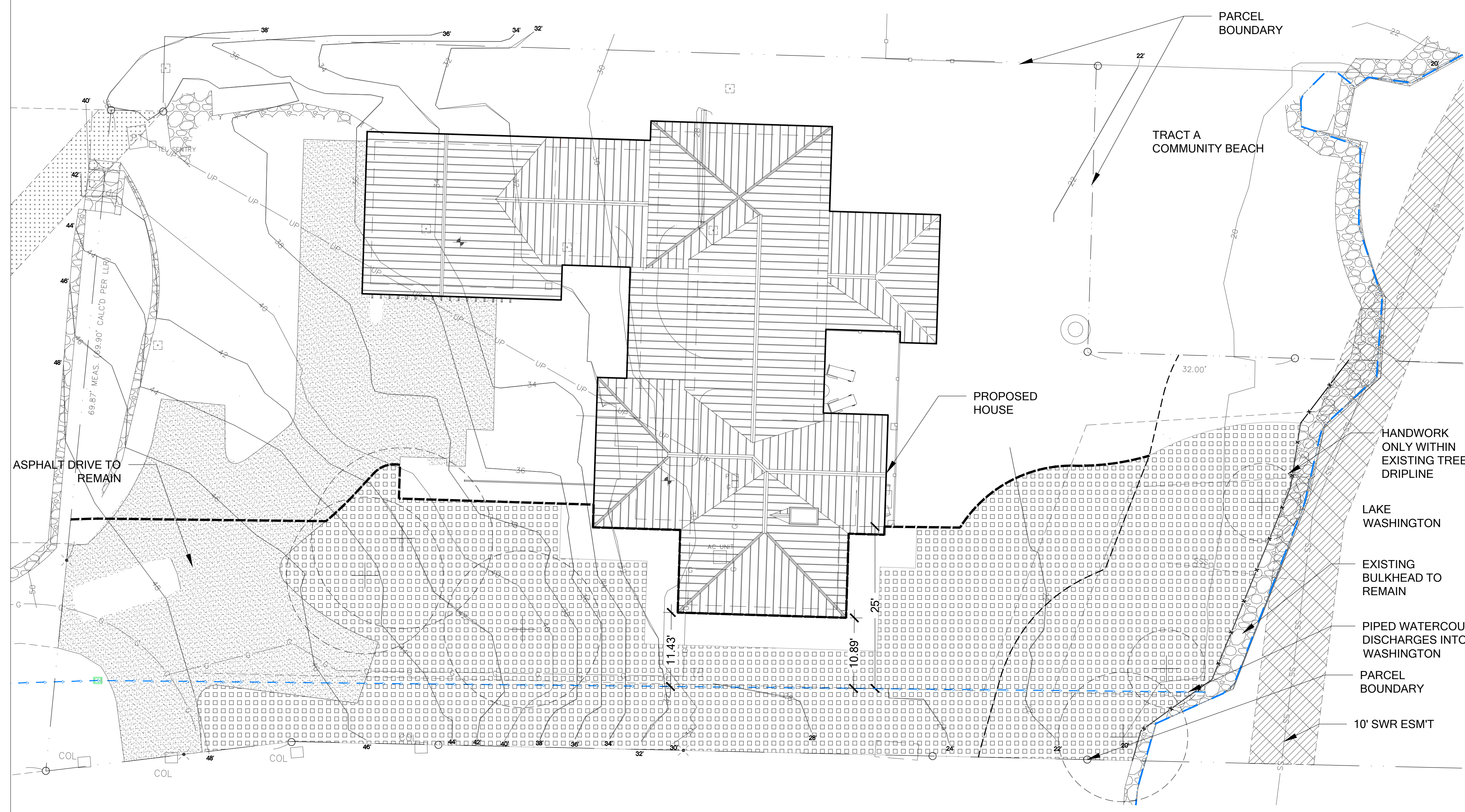
**PLANTING AREA PREPARATION**  
**STEP 1**  
 REMOVE UNDESIRABLE SPECIES. WORK WITHIN EXISTING ROOT ZONES SHALL BE DONE BY HAND.  
 PLACE THREE (3) INCHES COMPOST.  
**STEP 2**  
 INCORPORATE COMPOST TO AN EIGHT (8) INCH DEPTH.  
**STEP 3**  
 INSTALL MULCH LAYER FOUR (4) INCHES DEEP AND INSTALL PLANTS. (SEE PLANTING DETAIL.)

**SOIL PREPARATION: AMEND EXISTING SOILS**  
 SEQUENCE OF WORK - NOT TO SCALE



**1 SILT FENCE**

Scale: NTS



- NOTES**
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
  - ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
  - SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS 6" IN DEPTH.
  - TOP DRESS SOIL BY HAND WITH COMPOST MULCH WITHIN DRIPLINES OF EXISTING TREES TO REMAIN.

- LEGEND**
- OHWM (FROM OTHERS)
  - PIPED WATERCOURSE
  - SHORELINE BUFFER
  - PROPOSED WATERCOURSE BUFFER
  - REDUCED WATERCOURSE B BUFFER
  - SOIL PREPARATION AREA (4,881 SF)
  - SILT FENCE, 73 LF (DETAIL 1 SHEET W4)

**SITE PREPARATION PLAN**  
 SCALE: 1" = 10'-0"



**YANG RESIDENCE**  
**BUFFER AVERAGING PLAN**  
 PREPARED FOR  
**STEVE AND SOPHIE YANG**  
 6660 EAST MERCER WAY  
 MERCER ISLAND, WA 98040

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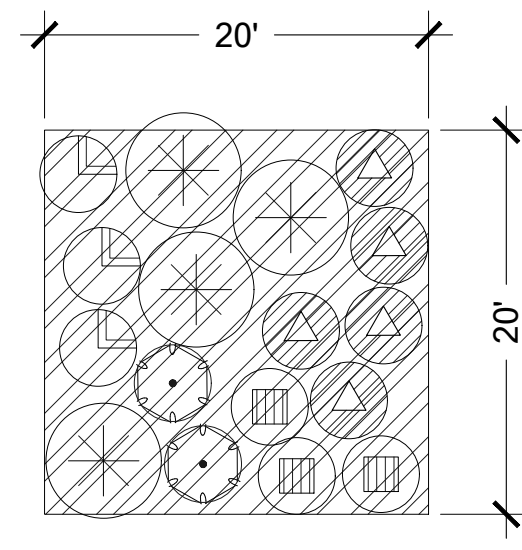
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 SCALE ACCORDINGLY.

PROJECT MANAGER: RK  
 DESIGNED: RK/KMB/GM  
 DRAFTED: GM  
 CHECKED: RK/KMB  
 JOB NUMBER: 180605  
 SHEET NUMBER: **W4 OF 7**



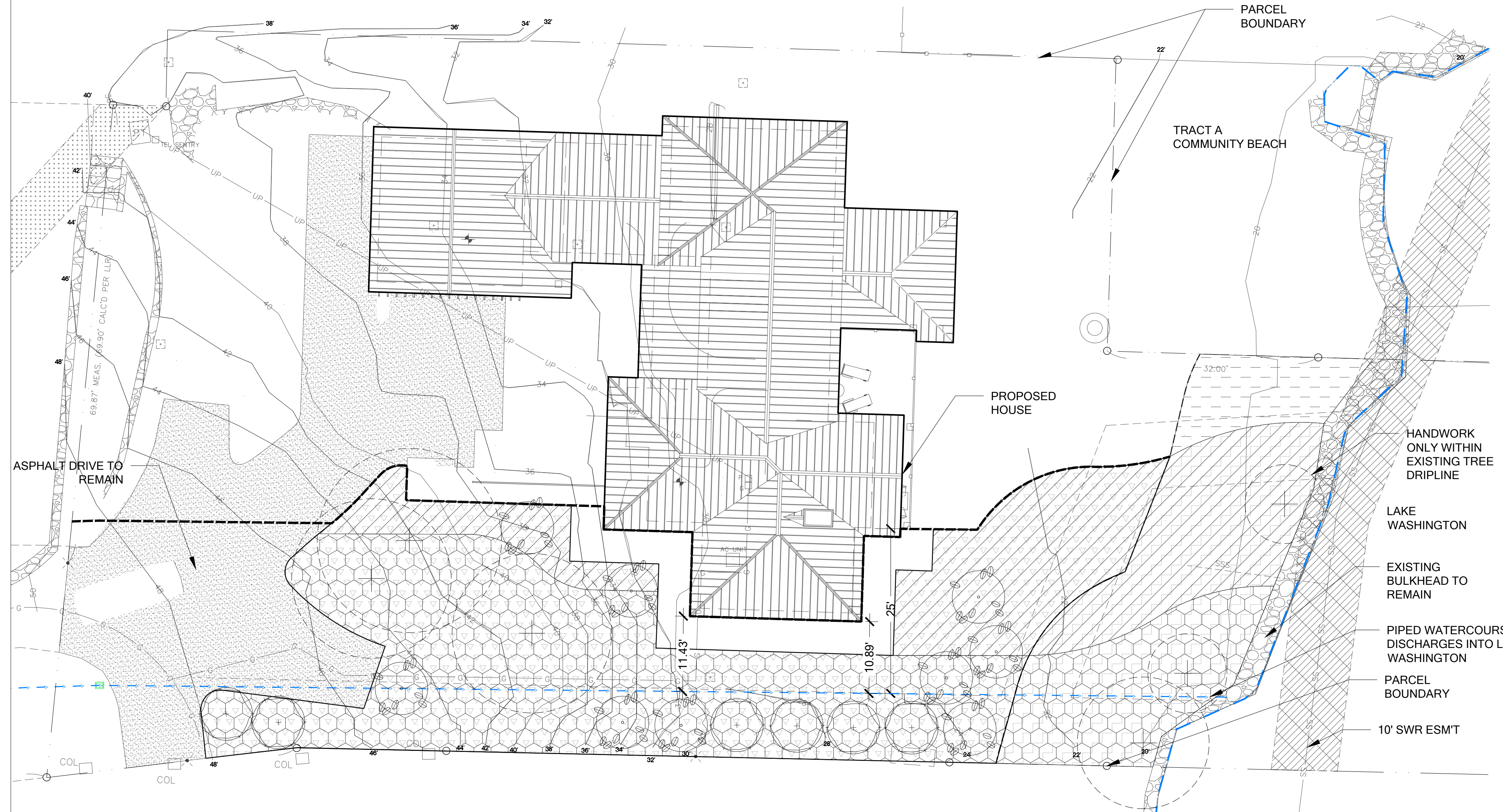
**ENHANCEMENT NATIVE MIX PLANTING SCHEDULE (3,146 SF)**

**VIEW PRESERVATION NATIVE PLANT MIX (1,740 SF)**



TREES	QTY	SPACING	SIZE
ACER CIRCINATUM / VINE MAPLE	9	8'	1 GAL. MIN.
RHAMNUS PURSHIANA / CASCARA	6	8'	1 GAL. MIN.
SHRUBS			
CORNUS SERICEA / RED-OSIER DOGWOOD	32	6'	1 GAL. MIN.
SYMPHORICARPUS ALBUS / SNOWBERRY	24	4'	1 GAL. MIN.
RIBES SANGUINEUM / RED-FLOWERING CURRANT	16	4'	1 GAL. MIN.
VIBURNUM EDULE / HIGHBUSH CRANBERRY	40	4'	1 GAL. MIN.
VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	24	4'	1 GAL. MIN.
GROUNDCOVER			
*ALL SPECIES TO BE SPACED TRIANGULARLY			
		48" O.C.	
MAHONIA NERVOSA / DULL MAHONIA	114		4" POT MIN.
POLYSTICHUM MUNITUM / SWORD FERN	114		4" POT MIN.
<b>379 TOTAL</b>			

SHRUBS	QTY	SPACING	SIZE
*ALL SPECIES TO BE SPACED TRIANGULARLY NOTE: GROUP INTO SAME SPECIES CLUSTERS OF 6-8			
SPIREA DENSIFLORA	74	3'	1 GAL. MIN.
MYRICA GALE / SWEETGALE	74	3'	1 GAL. MIN.
CORNUS SERICEA 'KELSEY'	74	3'	1 GAL. MIN.
GROUNDCOVER			
*ALL SPECIES TO BE SPACED TRIANGULARLY NOTE: GROUP INTO SAME SPECIES CLUSTERS OF 9-15			
DELPHINIUM MENZIESII / WESTERN LARKSPUR	167	24" O.C.	4" POT MIN.
FESTUCA IDAHOENSIS / ROEMER'S FESCUE	167	24" O.C.	4" POT MIN.
ARCTOSTAPHYLOS UVA-URSI / KINNICKINICK	167	24" O.C.	4" POT MIN.
<b>723 TOTAL</b>			



- NOTES**
1. APPLICABLE EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
  2. REFER TO DETAIL 2, SHEET W6 FOR PLANT SPACING LAYOUT.
  3. REFER TO DETAIL 1, SHEET W6 FOR CONTAINER PLANTING DETAIL.
  4. INSTALL SHRUBS AROUND EXISTING TREES (6), TO REMAIN. PLANT ONLY GROUNDCOVERS WITHIN THE DRIPLINES OF EXISTING TREES TO REMAIN.

- LEGEND**
- OHWM (FROM OTHERS)
  - PIPED WATERCOURSE
  - SHORELINE BUFFER
  - PROPOSED WATERCOURSE BUFFER
  - WATERCOURSE BUFFER PLANTING AREA (3,531 SF)  
NUMBER OF PLANTS WITHIN AREA = 703
  - SHORELINE SETBACK NATIVE PLANTING AREA (1,350 SF)  
EQUALS 83% OF TOTAL SHORELINE AREA (1,627 SF)
  - OWNER SELECTED LANDSCAPE AREA (277 SF)
  - EXISTING TREE TO REMAIN
  - BUFFER ENHANCEMENT NATIVE PLANTS
  - VIEW PRESERVATION NATIVE PLANTS

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**DRAFTED:** GM  
**CHECKED:** RK/KMB  
**JOB NUMBER:** 180605  
**SHEET NUMBER:** W5 OF 7

**PLANTING PLAN**  
SCALE: 1" = 10'-0"





# PLANT INSTALLATION SPECIFICATIONS

## GENERAL NOTES

### QUALITY ASSURANCE

- PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
- PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
- TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
- NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 1973 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

### DEFINITIONS

- PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC...; SPRIGS, PLUGS, AND LINERS.
- CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

### SUBSTITUTIONS

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
- SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT.
- IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
- SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

### INSPECTION

- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
- PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
- THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE, THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

### MEASUREMENT OF PLANTS

- PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
- HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
- WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.)

## SUBMITTALS

### PROPOSED PLANT SOURCES

- WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

### PRODUCT CERTIFICATES

- PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
- HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

### DELIVERY, HANDLING, & STORAGE

### NOTIFICATION

CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

### PLANT MATERIALS

- TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
- SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
- HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
- LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

### WARRANTY

### PLANT WARRANTY

PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

### REPLACEMENT

- PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

### PLANT MATERIAL

### GENERAL

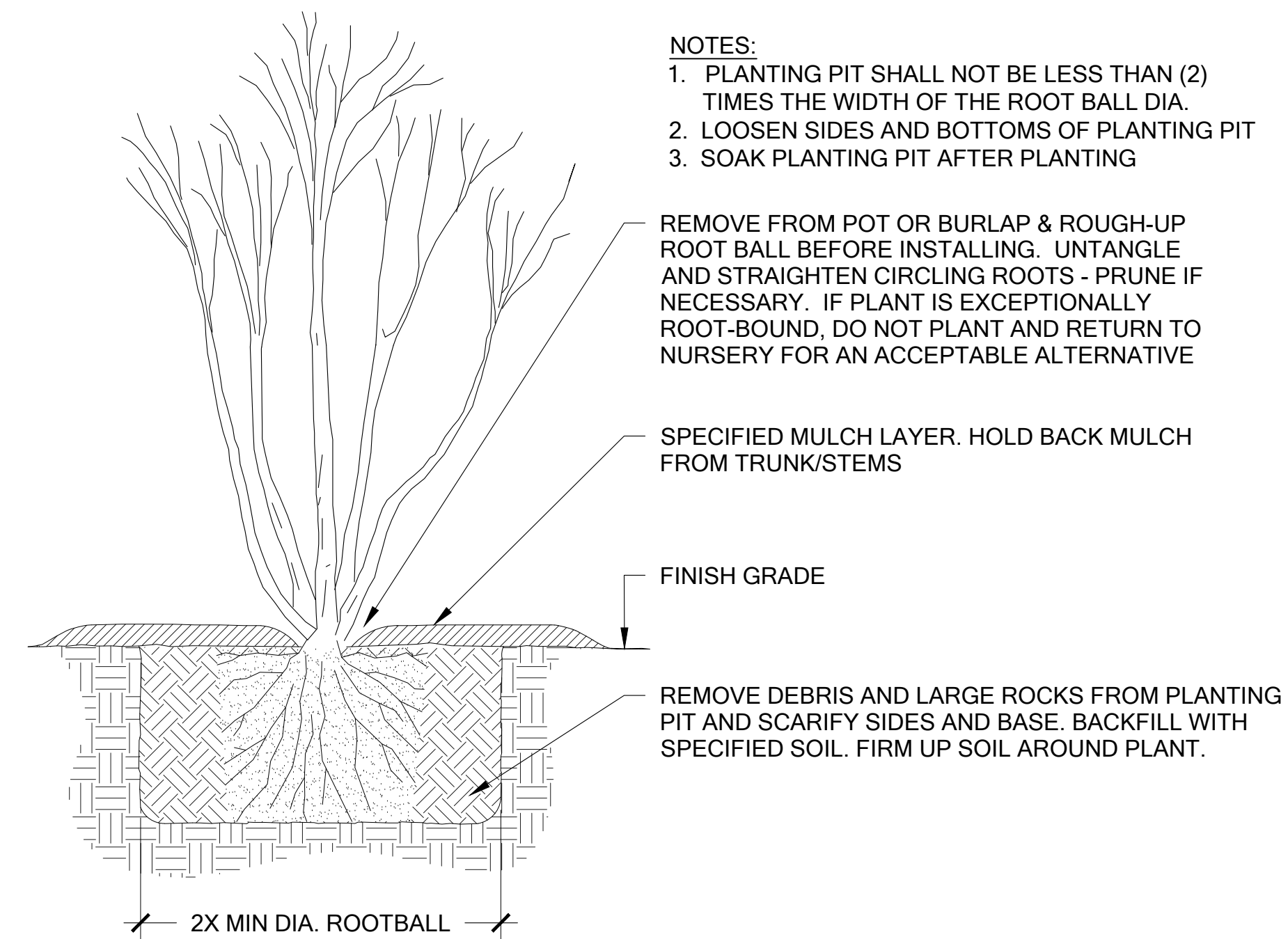
- PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
- PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

### QUANTITIES

SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

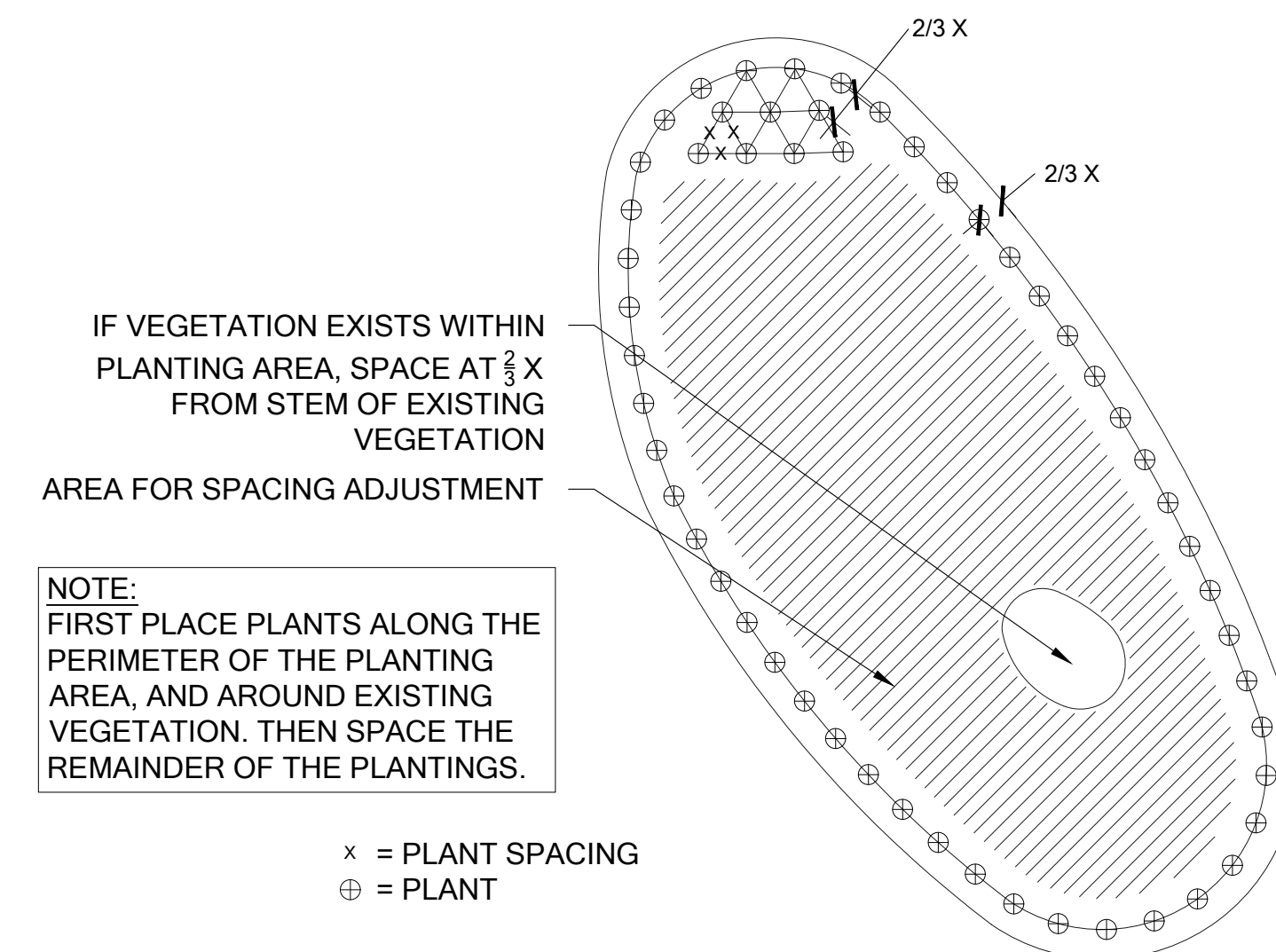
### ROOT TREATMENT

- CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
- PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
- ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.



1 TREE AND SHRUB PLANTING

Scale: NTS



2 PLANT SPACING

Scale: NTS

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DRAFTED: GM  
CHECKED: RK/KMB  
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180605  
SHEET NUMBER:  
W6 OF 7



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Call before you dig.

# PLANT INSTALLATION DETAILS AND NOTES

SCALE AS NOTED



**MITIGATION PLAN NOTES**

**OVERVIEW**

A COMPREHENSIVE FIVE-YEAR MAINTENANCE AND MONITORING PLAN IS INCLUDED AS PART OF THE BUFFER ENHANCEMENT. THE PLAN SPECIFIES APPROPRIATE SPECIES FOR PLANTING AND PLANTING TECHNIQUES, DESCRIBES PROPER MAINTENANCE ACTIVITIES, AND SETS FORTH PERFORMANCE STANDARDS TO BE MET YEARLY DURING MONITORING. THIS WILL ENSURE THAT ENHANCEMENT/RESTORATION PLANTINGS WILL BE MAINTAINED, MONITORED, AND SUCCESSFULLY ESTABLISHED WITHIN THE FIRST FIVE YEARS FOLLOWING IMPLEMENTATION.

PROPOSED RESTORATION BEGINS WITH INCORPORATING COMPOST INTO THE ENHANCEMENT AREA. THIS WILL BE FOLLOWED BY INSTALLATION OF NATIVE TREE SHRUB AND GROUNDCOVER SPECIES SUITABLE TO THE SITE. TEN NATIVE SMALL TREE/SHRUB SPECIES AND FIVE NATIVE GROUNDCOVER SPECIES ARE PROPOSED IN THE MITIGATION AREA. THE PLAN CALLS FOR NEW PLANTINGS WITHIN THE INNER 25-FOOT SHORELINE BUFFER AREA AND THE WATERCOURSE BUFFER. NATIVE PLANTINGS ARE INTENDED TO INCREASE NATIVE PLANT COVER, IMPROVE NATIVE SPECIES DIVERSITY, INCREASE VEGETATIVE STRUCTURE, AND PROVIDE FOOD AND OTHER HABITAT RESOURCES FOR WILDLIFE.

**GOALS**

- 1.ENHANCE SHORELINE AND WATERCOURSE BUFFERS.
  - a.REDUCE THE AMOUNT OF IMPERVIOUS SURFACE AREA WITHIN WATERCOURSE BUFFERS.
  - b.ESTABLISH DENSE AND DIVERSE NATIVE SMALL TREE, SHRUB, AND GROUNDCOVER VEGETATION THROUGHOUT THE MITIGATION AREAS.

**PERFORMANCE STANDARDS**

THE STANDARDS LISTED BELOW WILL BE USED TO JUDGE THE SUCCESS OF THE PLAN OVER TIME. IF THE STANDARDS ARE MET AT THE END OF THE FIVE-YEAR MONITORING PERIOD, THE CITY SHALL ISSUE RELEASE OF THE PERFORMANCE BOND.

- 1.SURVIVAL:
  - a.100% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS AT THE END OF YEAR ONE. THIS STANDARD MAY BE MET THROUGH ESTABLISHMENT OF INSTALLED PLANTS OR BY REPLANTING AS NECESSARY TO ACHIEVE THE REQUIRED NUMBERS.
  - b.80% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS AT THE END OF YEAR TWO. THIS STANDARD MAY BE MET THROUGH ESTABLISHMENT OF INSTALLED PLANTS OR BY REPLANTING AS NECESSARY TO ACHIEVE THE REQUIRED NUMBERS.
  - i. SURVIVAL BEYOND YEAR TWO IS DIFFICULT TO TRACK. THEREFORE, A DIVERSITY STANDARD IS PROPOSED IN PLACE OF SURVIVAL (SEE #3, BELOW).
- 2.NATIVE VEGETATION COVER IN PLANTED AREAS:
  - a.ACHIEVE AT LEAST 60% COVER OF NATIVE PLANTS BY THE END OF YEAR 3. VOLUNTEER SPECIES MAY COUNT TOWARD THIS STANDARD. TOTAL NATIVE PLANT COVER MUST INCLUDE A MINIMUM OF 40% TREE AND SHRUB COVER.
  - b.ACHIEVE AT LEAST 80% COVER OF NATIVE PLANTS BY THE END OF YEAR 5. VOLUNTEER SPECIES MAY COUNT TOWARD THIS STANDARD. TOTAL NATIVE PLANT COVER MUST INCLUDE A MINIMUM OF 60% TREE AND SHRUB COVER.
- 3.SPECIES DIVERSITY IN PLANTED AREAS:
  - a.ESTABLISH AT LEAST SIX NATIVE SMALL TREE/SHRUB SPECIES AND FOUR NATIVE GROUNDCOVER SPECIES THROUGHOUT THE ENHANCEMENT AREAS BY YEAR 5. VOLUNTEER SPECIES MAY COUNT TOWARD THIS STANDARD. "ESTABLISHMENT" IS CONSIDERED AT LEAST FIVE HEALTHY, INDIVIDUAL PLANTS OF A GIVEN SPECIES PRESENT WITHIN THE MITIGATION AREAS.
- 4.INVASIVE SPECIES STANDARD: NO MORE THAN 10% COVER OF INVASIVE SPECIES IN THE PLANTING AREA IN ANY MONITORING YEAR. INVASIVE SPECIES ARE DEFINED AS ANY CLASS A, B, OR C NOXIOUS WEEDS AS LISTED BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD.

**MONITORING METHODS**

THIS MONITORING PROGRAM IS DESIGNED TO TRACK THE SUCCESS OF THE MITIGATION SITE OVER TIME BY MEASURING THE DEGREE TO WHICH THE PERFORMANCE STANDARDS LISTED ABOVE ARE BEING MET. AN AS-BUILT PLAN WILL BE PREPARED WITHIN 30 DAYS OF SUBSTANTIALLY COMPLETE CONSTRUCTION OF THE MITIGATION AREAS. THE AS-BUILT PLAN

WILL DOCUMENT CONFORMANCE WITH THESE PLANS AND WILL DISCLOSE ANY SUBSTITUTIONS OR OTHER NON-CRITICAL DEPARTURES. THE AS-BUILT PLAN WILL ESTABLISH BASELINE PLANT INSTALLATION QUANTITIES, PHOTOPOINTS, AND THREE 50-FOOT MONITORING TRANSECTS THAT WILL BE USED THROUGHOUT THE MONITORING PERIOD TO MEASURE THE PERFORMANCE STANDARDS.

MONITORING WILL OCCUR TWICE ANNUALLY FOR FIVE YEARS. THE FIRST MONITORING VISIT WILL TAKE PLACE IN THE SPRING. THIS VISIT WILL RECORD NECESSARY WEEDING, INVASIVE CONTROL, AND OTHER MAINTENANCE NEEDS. THE RESTORATION SPECIALIST WILL THEN NOTIFY THE OWNER AND/OR MAINTENANCE CREWS OF NECESSARY EARLY SEASON MAINTENANCE. THE LATE-SEASON VISIT WILL OCCUR IN LATE SUMMER OR FALL AND WILL RECORD THE FOLLOWING AND BE SUBMITTED IN AN ANNUAL REPORT TO THE CITY:

- 1.GENERAL SUMMARY OF THE SPRING VISIT.
- 2.FIRST- AND SECOND-YEAR COUNTS OF SURVIVING AND DEAD/DYING PLANTS BY SPECIES IN THE PLANTING AREAS.
- 3.ESTIMATES OF NATIVE SPECIES COVER USING COVER CLASS METHOD.
- 4.ESTIMATES OF INVASIVE SPECIES COVER USING COVER CLASS METHOD.
- 5.COUNTS OF ESTABLISHED NATIVE SPECIES TO DETERMINE SPECIES RICHNESS.
- 6.PHOTOGRAPHIC DOCUMENTATION AT PERMANENT PHOTOPOINTS.
- 7.INTRUSIONS INTO THE PLANTING AREAS, EROSION, VANDALISM, TRASH, AND OTHER ACTIONS DETRIMENTAL TO THE OVERALL HEALTH OF THE MITIGATION AREAS.
- 8.RECOMMENDATIONS FOR MAINTENANCE IN THE MITIGATION AREAS.
- 9.RECOMMENDATIONS FOR REPLACEMENT OF ALL DEAD OR DYING PLANT MATERIAL WITH SAME OR LIKE SPECIES AND NUMBER AS ON THE APPROVED PLAN.

**CONSTRUCTION NOTES AND SPECIFICATIONS**

**GENERAL NOTES**

THE RESTORATION SPECIALIST WILL OVERSEE THE FOLLOWING:

- 1.CLEARING, SOIL DECOMPACTION, AND COMPOST INCORPORATION;
- 2.INVASIVE WEED CLEARING; AND
- 3.PLANT MATERIAL INSPECTION.
  - a) PLANT DELIVERY INSPECTION.
  - b) 50% PLANT INSTALLATION/LAYOUT INSPECTION.
  - c)100% PLANT INSTALLATION INSPECTION.

**WORK SEQUENCE**

- 1.CLEAR THE PLANTING AREA OF ALL INVASIVE WOODY VEGETATION INCLUDING BUT NOT LIMITED TO HIMALAYAN BLACKBERRY, ENGLISH IVY, AND ENGLISH LAUREL.
- 2.ROTO-TILL 3 INCHES OF COMPOST INTO THE UPPER 8 INCHES OF THE SOIL.
- 3.ALL PLANT INSTALLATION WILL TAKE PLACE DURING THE DORMANT SEASON (OCTOBER 15TH TO MARCH 1ST).
- 4.LAYOUT VEGETATION TO BE INSTALLED PER THE PLANTING PLAN AND PLANT SCHEDULE.
- 5.PREPARE A PLANTING PIT FOR EACH PLANT AND INSTALL PER THE PLANTING DETAILS.
- 6.MULCH EACH TREE AND SHRUB WITH A CIRCULAR WOOD CHIP MULCH RING, 4 INCHES THICK AND EXTENDING 9 INCHES FROM THE BASE OF THE PLANT (18-INCH DIAMETER).
- 7.INSTALL A TEMPORARY OR PERMANENT IRRIGATION SYSTEM AS NEEDED TO ENSURE THAT ALL PLANTS RECEIVE AT LEAST ONE INCH OF WATER PER WEEK FROM JUNE 1ST – SEPTEMBER 30TH. MAINTAIN IRRIGATION SYSTEM IN WORKING CONDITION FOR AT LEAST TWO SUMMERS AFTER INITIAL PLANT INSTALLATION.

**MAINTENANCE**

THIS SITE WILL BE MAINTAINED FOR FIVE YEARS FOLLOWING COMPLETION OF THE PLANT INSTALLATION.

- 1.REPLACE EACH PLANT FOUND DEAD IN THE SUMMER MONITORING VISIT DURING THE UPCOMING FALL DORMANT SEASON (OCTOBER 15TH TO MARCH 1ST).
- 2.FOLLOW THE RECOMMENDATIONS NOTED IN THE SPRING MONITORING SITE VISIT.
- 3.INVASIVE SPECIES MAINTENANCE PLAN:
  - a) HIMALAYAN BLACKBERRY, ENGLISH IVY, ENGLISH LAUREL, AND OTHER INVASIVE WOODY VEGETATION WILL BE GRUBBED OUT BY HAND ON AN ONGOING BASIS, WITH CARE TAKEN TO GRUB OUT ROOTS EXCEPT WHERE SUCH WORK WILL JEOPARDIZE THE ROOTS OF INSTALLED OR VOLUNTEER NATIVE PLANTS.
  - b) IF IT IS LIKELY THAT HAND REMOVAL WILL NOT BE COMPLETELY EFFECTIVE OR WILL DAMAGE DESIRABLE SPECIES, THEN APPLICATION OF AN HERBICIDE APPROVED FOR USE IN AQUATIC AREAS MAY BE USED. HERBICIDE APPLICATIONS MUST BE CONDUCTED ONLY BY A STATE-LICENSED APPLICATOR. APPLICATIONS SHOULD BE DONE BETWEEN MID-SPRING AND MID-SUMMER TO MAXIMIZE UPTAKE BY PLANTS. APPLICATION SHOULD BE A TARGETED METHOD SUCH AS SPOT SPRAY (PREFERRED FOR HIMALAYAN BLACKBERRY), OR WICK.
- 4.AT LEAST TWICE YEARLY, REMOVE BY HAND ALL COMPETING WEEDS AND WEED ROOTS FROM BENEATH EACH INSTALLED PLANT AND ANY DESIRABLE VOLUNTEER VEGETATION TO A DISTANCE OF 12 INCHES FROM THE MAIN PLANT STEM. WEEDING SHOULD OCCUR AS NEEDED DURING THE SPRING AND SUMMER. FREQUENT WEEDING WILL RESULT IN LOWER MORTALITY AND LOWER PLANT REPLACEMENT COSTS.
- 5.DO NOT WEED THE AREA NEAR THE PLANT BASES WITH STRING TRIMMER (WEED WHACKER). NATIVE PLANTS ARE EASILY DAMAGED OR KILLED, AND WEEDS EASILY RECOVER AFTER TRIMMING.
- 6.MULCH THE WEEDED AREAS BENEATH EACH PLANT WITH WOOD CHIP MULCH AS NECESSARY TO MAINTAIN A MINIMUM 4-INCH-THICK, 18-INCH-DIAMETER MULCH RING.
- 7.THE TEMPORARY IRRIGATION SYSTEM WILL BE OPERATED TO ENSURE THAT PLANTS RECEIVE A MINIMUM OF ONE INCH OF WATER PER WEEK FROM JUNE 1ST THROUGH SEPTEMBER 30TH FOR THE FIRST TWO YEARS FOLLOWING INSTALLATION. IRRIGATION BEYOND THE SECOND YEAR MAY BE NEEDED BASED ON SITE PERFORMANCE OR SIGNIFICANT REPLANTING.

**MATERIAL SPECIFICATIONS AND DEFINITIONS**

- 1.COMPOST: CEDAR GROVE COMPOST OR EQUIVALENT PRODUCT. 100% VEGETABLE COMPOST WITH NO APPRECIABLE QUANTITIES OF SAND, GRAVEL, SAWDUST, OR OTHER NON-ORGANIC MATERIALS. QUANTITY REQUIRED: 56 CUBIC YARDS.
- 2.RESTORATION SPECIALIST: THE WATERSHED COMPANY [(425) 822-5242] PERSONNEL OR OTHER PERSON QUALIFIED TO EVALUATE ENVIRONMENTAL RESTORATION PROJECTS.
- 3.WOOD CHIP MULCH: CHIPPED WOODY MATERIAL APPROXIMATELY 1 INCH MINIMUM TO 3 INCHES IN MAXIMUM DIMENSION (NOT SAWDUST OR COARSE HOG FUEL). MULCH SHALL NOT CONTAIN APPRECIABLE QUANTITIES OF GARBAGE, PLASTIC, METAL, SOIL, AND DIMENSIONAL LUMBER OR CONSTRUCTION/ DEMOLITION DEBRIS. PACIFIC TOPSOIL [(800) 844-7645] SELLS SUITABLE WOODCHIP MULCH CALLED "WOOD CHIP MULCH" AT MANY OF THEIR LOCATIONS. NOTE: ARBORIST WOODCHIPS GENERALLY CONTAIN WEED SEEDS AND ARE NOT A RELIABLE ALTERNATIVE. QUANTITY REQUIRED: 4 CUBIC YARDS.



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BUFFER AVERAGING PLAN  
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MERCER ISLAND, WA 98040**

NO.	DATE	DESCRIPTION	BY	
			GM	
1	07-11-2019	REVIEW SET		

**SHEET SIZE:**  
ORIGINAL PLAN IS 22" x 34".  
SCALE ACCORDINGLY.

PROJECT MANAGER: RK  
DESIGNED: RK/KMB/GM  
DRAFTED: GM  
CHECKED: RK/KMB  
JOB NUMBER:

180605

SHEET NUMBER:  
**W7 OF 7**



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**MITIGATION PLAN NOTES**